

M.Sc. CHEMISTRY
SCLS, JAMIA HAMDARD
SEMESTER-II EXAMINATION, 2019
PAPER CODE – MCHCC-202
ORGANIC CHEMISTRY-II

Time: 3hr

Max. Marks – 75

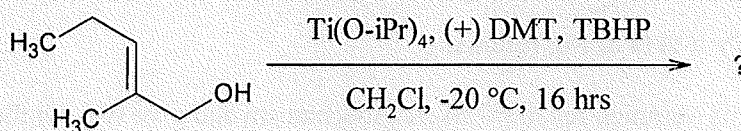
(Write your Roll No. at the top immediately on receipt of this question paper)

Attempt ALL questions. Each question carries equal marks

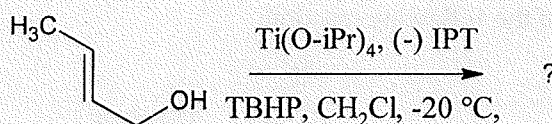
Q1. Attempt ALL TEN questions. Each question carries one mark.

1.5 x 10 = 15

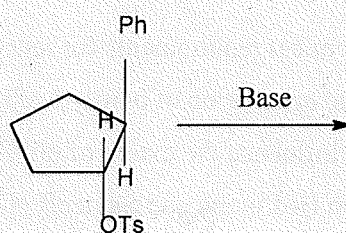
- (i) What is Sandmeyer reaction?
- (ii) What is E_{1cB} ?
- (iii) What is Gomberg reaction?
- (iv) What is Autooxidation?
- (v) Acetyl chloride is not attacked by radical at all. Why?
- (vi) What is Zaitsev's rule?
- (vii) Give an example for SE_i mechanism.
- (viii) Predict the product.



- (ix) Predict the product.



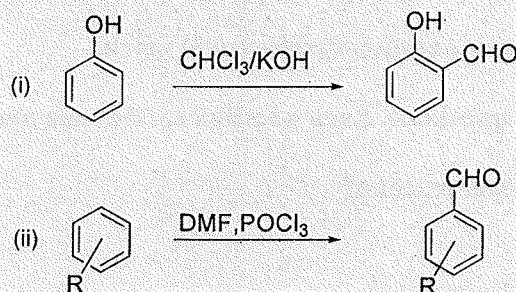
- (x) Predict the product.



Q2. Answer any two of the following:

7.5 x 2 = 15

- (A) Explain the *Ipsso* effect in aromatic electrophilic substitutions.
- (B) Discuss various SE_1 reactions with suitable examples and the factors influencing SE_1 reaction.
- (C) Write a short note on the following:
(i) Diazonium coupling (ii) Arenium ion mechanism
- (D) Draw the suitable mechanisms for the following reactions



Q3. Attempt ANY TWO of the following.

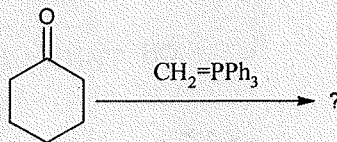
7.5 x 2 = 15

- (A) Give a brief account on free radical substitution mechanisms SH_1 and SH_2 .
- (B) What is Eglinton reaction? Give its reaction mechanism and application.
- (C) Discuss in brief the important use of N-Bromosuccinamide and explain the mechanism of reaction involved this reagent.
- (D) The tertiary hydrogen in alkanes is preferentially abstracted by any radical. Give reasons.

Q4. Attempt ANY TWO of the following.

7.5 x 2 = 15

- (A) What is Mannich reaction? Sketch mechanism and give two synthetic applications.
- (B) Write a note on synthetic applications of Michael addition reaction.
- (C) What is hydroboration? Give evidences in support that hydroboration is a concerted process.
- (D) What is phosphorus ylides? How will you prepare it? Predict the product and sketch the mechanism of the following reaction.



Q5. Attempt ANY TWO of the following.

7.5 x 2 = 15

- (A) What are the stereochemical requirements for reactions undergoing E_2 mechanistic path.
- (B) Discuss mechanism and orientation of pyrolytic elimination reactions with suitable example.
- (C) Discuss factors which influence the extent of elimination and substitution.
- (D) Give a brief account on Hoffmann and Saytzeff elimination.

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